

Topics:

System Development Lifecycle [1]

SM-10-005 System Development Lifecycle

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PURPOSE

A System Development Life Cycle (SDLC) is a systematic and orderly approach for solving business and IT related problems. A SDLC consists of a methodology of repeatable steps for delivering systems that meet the business requirements. Such steps may include identifying business requirements, converting those requirements into system requirements and ultimately delivering the system. There are a number of recognized SDLC methodologies in use, each of which has specific strengths and shortcomings. Most methodologies provide guidelines for specific deliverables in the form of templates for each project phase. Benefits of using a documented SDLC include the following:

- Breaks the project into smaller and more manageable steps which may also result in more effective project management (i.e., resource assignment to project related activities at appropriate points based on specific project phase requirements)
- Allows for review of system compliance with pre-defined IT policies, standards and guidelines at specific project lifecycle transition points (i.e., transition from design to quality assurance)
- Requires documentation that can be leveraged for future system enhancement, maintenance and support
- Enhances future project audit ability by providing a structured approach with specific deliverables for system development
- Provides a mechanism for understating and addressing the security needs of information systems in order to ensure compliance with enterprise architecture security standards
- Establishes system quality assurance as a fundamental component of delivering systems that meet business and IT system needs (i.e., system usability, functionality, performance, availability, functionality, maintainability, supportability, expandability, integrity, security and audit ability)

STANDARD

An agency that develops, customizes or maintains IT application solutions for use in performing a business function shall ensure that only authorized system development lifecycles (SDLC) are used by its application development staff (including contracted development staff and system integrators). The agency shall:

- Select, customize or develop one or more SDLC(s) appropriate to its own solution development operations and selection of software for use. A selected SDLC shall be documented in the agency IT policy and procedure manual. Documentation shall include, but not be limited to, the following:
 - Name of industry best practice SDLC upon which the agency SDLC is adopted or patterned,
 - Phases, or major work breakdown steps, specified by the SDLC,
 - Deliverables and responsibilities for their preparation from each phase,
 - Activities which must be coordinated with representatives of functions apart from development staff, specifying timing and agenda for the coordination.
 - Management and coordination activities including those performed by and with Business Owners and other business staff.